

[OPTICAL DISK DRIVE CONTROL CIRCUIT AND METHOD]

Abstract of Disclosure

A control circuit for an optical disk drive includes a frequency detector, a phase detector, a low pass filter, a voltage-controlled oscillator (VCO), and a controller. The frequency detector and the phase detector both receive an eight-to-fourteen modulation (EFM) signal and a data phase-locked loop (DPLL) signal. The controller can calculate a target frequency and control the VCO to output the DPLL signal according to the target frequency. During a non-rotate mode, the VCO outputs the DPLL signal according to output of the frequency detector, phase detector, and low pass filter. During a rotate mode or when spindle speed of the optical disk drive changes, the VCO outputs the DPLL signal according to the target frequency. The controller further outputs charge pump currents for the frequency detector and the phase detector and sets an RF equalizer signal and a differential phase detector (DPD) equalizer signal according to the target frequency.

Figures